imagery by the National Remote Sensing Agency, the average annual rate of depletion of forest cover during the period 1972—75 to 1980—82 was approximately 1.3 million hectares.

(b) The targets for afforestation during the years 1985-86 and 1986-87 were 1.40 million hectares and 1.71 million hectares respectively and the actual achievements have been 1.51 million hectares and 1.76 million hectares, respectively.

(c) It is estimated that funds to the extent of about Rs. 2500 crores will be required for taking up afforestation over 5 million hectares of land.

(d) The following important steps have been taken by the Government to improve the area under forest cover:—

(i) Enactment of the Forest (Conservation) Act, 1980, development of infrastructure and enforcement of legal provisions for the protection of forests;

(ii) Development of alternative sources of energy to replace fuelwood in domestic and commercial sectors;

(iii) Liberalised import policy for forest products;

(iv) Guidelines to the State Governments—

(a) to avoid clear felling of natural forests.

(b) to consider banning of felling in the hills above 1000 metres, at least for some years.

(c) to identify critical areas in the hills and mountains which require protection from felling of forests and need immediate vigorous afforestation.

(d) to set apart 4 per cent of the geographical area as protection areas like wildlife sanctuaries, national parks, biosphere reserves etc.

(v) Establishment of National Wastelands Development Board with a view to development of people's movement for afforestation.

Use of plants in monitoring Environmental Pollution

301. PROF. B. RAMACHANDRA RAO:
SHRI G. SWAMY NAIK:
SHRI RAJNI RANJAN SAHU:

Will the Minister of ENVIRONMENT AND FORESTS be pleased to state:

(a) whether Government are aware of the use of plants to monitor pollution of the environment;

(b) if so, whether this technique is being utilised in our country;

(c) what are the plants used for this purpose and what are the details of the pollutants so monitored; and

(d) whether the technique has been used to study pollution in lakes, canals, ponds and the ocean?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT AND FORESTS (SHRI Z. R. ANSARI): (a) and (b) Yes, Sir. An integrated research programme on responses of plants to air pollutants with special reference to Sulphurdioxide and Particulates in urban and industrial areas involving 8 centres in the country has been sponsored by this Ministry with a view to using plants for indicating, monitoring and abating pollution.

(c) Certain species or cultivars of higher vascular plants and many lower non-vascular plants such as mosses and lichens are used for this purpose. The pollutants monitored are Sulphurdioxide, Oxidants (Ozone and PAN), Nitrogen Oxides (NO and NO2), Fluorides, Particulates and Heavy Metals.

(d) Yes, Sir.